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SOLAR ENERGY DIVISION

Newsletter of the Solar Energy Division **Spring 2009**

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State of the SED – Message from the Chair

Reddy Agami

ASME Solar Energy Division (SED) was established in 1966 from a group of ASME members interested in the application of solar energy to mechanical engineering systems. Solar related technologies broadly cover all renewable energy technologies (wind energy, ocean energy, bioconversion, biofuels,..) as well as energy conservation. The core values of SED are to:

- Support a stimulating international environment of like-minded dedicated professionals wishing to advance the application of renewable energy thru basic research, applied research, development and implementation
- Create peer-reviewed high value content
- Facilitate the creation, dissemination and application of knowledge (science, engineering, technology) and information in renewable energy within ASME and at federal and state government
- Attract students and young engineers into this area and provide them a forum to better manage their careers

The SED is managed by the Executive Committee with five voting members plus the chairs of the Technical Committees and the Administrative Committees, and the Editor of the Journal of Solar Energy Engineering (JSEE) acting as ex-officio, non-voting members. The Executive Committee meets once a year during the summer conference and also holds quarterly conference calls to conduct the business of the division.

Humankind, as a society, has reached a situation where some major decisions have to be made- and these are not easy ones! Depending on how wisely we make them now would dictate the tone in which, a few years from now, we will be reminiscing to our children: “It was the best of times, it was the worst of times….”. Society has never been more conscious than ever before of the perils facing humankind- many of them self-induced. Sustainability is a ubiquitous hot button item these days and “energy sustainability” is an integral element of this issue. Though everyone professes that renewable energy, along with energy efficiency, are the twin pillars on which this edifice will be built, we have a long way to go, and not too clear a vision as to how build it. The last 30 years have been very lean years for renewable energy. Most of the momentum in both industry as well as academia of the 1970s was completely destroyed in many parts of the world, and especially in the US. The resurgence of interest in sustainable energy during the last few years has obviously impacted renewable energy. Not only the public at large, but also academia and state and federal government have started taking renewable energy seriously, as have commercial and financial institutions. The US renewable energy market is about $10 billion/yr and expected to grow appreciably in the next few years.

There are several organizations whose mandate it is to promote renewable energy, and they approach their goal in commendable ways. Things on the ground do not happen by wishing them to be so. The unique strength of ASME lies in the scientific and technological expertise of its active members, and it is this expertise which SED would like to rekindle and promote anew. Towards this end, we have striven to work with other ASME divisions in order to leverage our collective strengths. We organized a joint conference with the Advanced Energy Systems Division (AESD) under the rubric of Energy Sustainability ’07 which was held from June 27-30 at Long Beach, CA. This was a big success with 164 attendees, 137 papers presented in 35 sessions, plus 9 plenary speakers and a whole afternoon Student Session. We were so pleased with the working arrangement with AESD that a second conference, Energy Sustainability 2008, was organized in Jacksonville, FL in August 2008. This conference, being co-located along with three other ASME divisions (Heat Transfer, Fluids and Nanotechnology) attracted close to 1000 attendees. The SED and AESD are planning another conference in San Francisco, CA sometime in the summer 2009 where we will again co-locate with other ASME divisions.

We anticipate that forging closer ties with other ASME divisions, with their specialized skills and institutionalized knowledge, will foster and provide the right environment where basic and applied research will cross-fertilize with development and demonstration in the area of energy sustainability. This is in line with ASME strategic planning in that divisions with common goals and objectives have been banded together. An Energy Conversion Group consisting of SED, AESD, Internal Combustion Engines, Fuels and Combustion Technologies, Nuclear Engineering, and Power Divisions has been created "**to promote the art and science of mechanical engineering in the power generation and energy conversion fields through the technical divisions that constitute the Group. These objectives are achieved through the Energy Conversion Board encouraging, promoting and coordinating the various division activities, liaison with other groups, national organizations, regions and sections of the Society, and by representing the interests of the divisions on the Council of Engineering of the Society. "**

Further, the Executive Committee members feel a pressing need to invigorate the division and make it more useful to the SED members and to students. A specially arranged SWOT (strengths, weaknesses, opportunities and threats) meeting was held in March 2008 with the intention of preparing a strategic work plan and identifying new SED initiatives for the next 3 years. We intend to implement many of the key initiatives identified in the months to come for which we welcome volunteers. We would like to offer our members new opportunities not only to make an impact but also to grow professionally. The ASME Journals in general, and the Journal of Solar Energy Engineering in particular, have a reputation of publishing papers of the highest scientific and technical quality in their respective fields. Our summer conference attracts several national as well as international scientists and engineers and this activity, as described above, continues to grow.

We welcome one and all- engineers, scientists, policy makers, technical professionals, educators, researchers, students- to be part of this exciting opportunity in the re-invigoration of the renewable energies. Contact us by phone or email if you would like to get involved!!!

Office Bearers

Executive Committee Members

Agami Reddy, Chair, Arizona State University, Tempe AZ, reddyta@asu.edu

Jorge González, Vice Chair, Santa Clara University, Santa Clara, CA, jgonzalezcruz@scu.edu

Moncef Krarti, Secretary/Treasurer, University of Colorado, Boulder, CO, krarti@colorado.edu

Andy Walker, Secretary/Treasurer, Nacional Renewable Energy Laboratory, Golden, CO, andy_walker@nrel.gov

Christian Sattler, Incoming Member, Germany Aerospace Center, Koln, Germany, Christian.sattler@dlr.de

Administrative Committees

Group Operating Board	**Roy Hogan**
Annual Report	**Agami Reddy**
Education	**Allison Grey**
Program Chair	**Jeff Morehouse**
Energy Committee	**Robert Boehm**
Congress Program Rep	**Jeff Morehouse**
Honors and Awards	**Jeff Morehouse**
JSEE	**Aldo Steinfeld**
Membership Development	**Christian Sattler**
Govt Relations	**Jorge Gonzalez**
Publicity/Newsletter	**Moncef Krarti**

Division Technical Committee Chairs

Gregor Henze, Conservation and Solar Buildings, University of Colorado, Boulder, CO

Robert Turner, General Solar Topics, University of Nevada at Reno, Reno, Nevada.

Eduardo Rincon, Heating and Cooling Applications and Analysis, Autonomous University of Mexico City, Mexico

Alfonso Ortega, Photovoltaics, Villanova University, Villanova, PA

Christian Sadler Solar Chemistry and Bioconversion, German Aerospace CTR DLR, Koln, Germany

Chuck Andraka, Solar Thermal Power, Sandia National Laboratories, Albuquerque, NM

Daniel Laird, Wind Energy, Sandi National Laboratory, Albuquerque, NM

ASME Frank Kreith Energy Award

ASME Committee on Honors

ASME is soliciting nominations for the ASME Frank Kreith Energy Award. The award was established in 2005 by the Solar Energy and Advance Energy Divisions to honor Dr. Frank Kreith's contributions to the fields of heat transfer and solar energy. The award honors an individual in recognition of significant contributions to a secure energy future through innovations in conservation and/or renewable energy technology. Contributions may be through research, education, and/or practice.

Eligibility: Only candidates whose names have been submitted in nomination will be considered for the award. Criteria for the award will be based on, but not limited to any of the following:

1. Significant research contributions in energy conservation and renewable energy
2. Significant contributions to education related to energy conservation and renewable energy
3. Significant contribution to the practice of engineering through invention, design or implementation of innovations in the field of energy conservation and renewable energy
4. Significant service to society that has lead to a more secure energy future.

Nominations: Nominations should be submitted using the standard ASME form for Society Awards that can be downloaded at **http://files.asme.org/asmeorg/Governance/Honors/SocietyAwards/7758.doc** . The nomination package should also include a curriculum vita of the nominee, a statement of the candidate's research, educational and professional accomplishments, limited to two pages, and five recommendations. Recommendations should be on the ASME form that can be downloaded at **http://files.asme.org/asmeorg/Governance/Honors/SocietyAwards/7760.doc.**

The recommendations should provide detailed evidence of the candidate's contribution to a secure energy future through innovation(s) in conservation and/or renewable energy technology. An electronic copy (PDF format is preferred) of the candidate's package, including curriculum vitae, letters of recommendation, and the nomination form should be prepared and forwarded to the Chair of the ASME Frank Kreith Energy Award Selection Committee for review.

Deadline: All copies of the nomination package must be received no later than **December 1, 2009.**

Send nominations and inquiries to:

Catherine Mervyn
ASME
Three Park Ave
New York, NY 10016-5990
Telephone: (212) 591-7736
E-mail: MervynC@asme.org

ASME Solar Energy Division Yellott Award

The **Yellott Award** is presented to an outstanding individual that has contributed significantly to the organization of the Solar Energy Division sponsored symposia.

Solicitation for Nominations for the ASME John I. Yellott Award The John I. Yellott Award is a biennial award sponsored by the ASME Solar Energy Division. This award, in honor of the Division's first Chair, recognizes ASME members who have demonstrated sustained leadership within the Solar Energy Division, have a reputation for performing high-quality solar energy research and have made significant contributions to solar engineering through education, state or federal government service or in the private sector. Nominations are being solicited for the Award that is presented biennially. Nominees should:

-be a member of ASME and the Solar Energy Division
-have demonstrated outstanding leadership in ASME
-have a reputation for performing high quality research
-have made significant contributions to solar engineering through education, state or federal service, or in the private sector.

Previous Recipients of John I. Yellott Award

-1992 William A. Beckman

-1994 D. Yogi Goswami

-1996 Robert L. Reid

-2000 Frank Kreith

-2002 Thomas R. Mancini

-2004 Jane Davidson

- 2006 Hunter Fanney

- 2008 Aldo Steinfeld

2010 NOMINATIONS ARE DUE April 15, 2010

For more information or to make a nomination, contact:
Agami Reddy, Ph.D., P.E.
School of Sustainability
Arizona State University
Tempe, AZ, 85287
Tel: (480)965-4460
email: reddyta@asu.edu

Upcoming Event

"4th International Conference on Energy Sustainability – 2010"

Conference Co-located with ASES Solar 10 and Organized Jointly by
Solar Energy Division (SED) and Advanced Energy Systems Division (AESD)
of ASME International
May 19-122, 2010
Phoenix Convention Center and Hyatt Hotel, Phoenix, 2010

Co-Located with Heat Transfer, Fluids Engineering, and the Nano Institute Conferences

INVITATION

We invite researchers, engineers, scientists architects, consultants, and policy-makers in industries, R & D laboratories & Government establishments to participate in this exciting event meant as a forum to exchange innovative ideas, leading edge concepts, new technologies and devices, ongoing R&D efforts, prototype and demonstration projects, commercialization technologies and projects, and visions of the future related to the general theme of **Energy Sustainability.** The conference will consist of plenary talks, invited talks, panel discussions, workshops, tutorials, technical sessions, poster presentations and exhibitions, thus providing a unique opportunity for communication and collaboration between academia, industry and planners in the areas of Energy Efficiency, Renewable Energy and Advanced Energy Technologies.

Papers submitted to Energy Sustainability '10 will undergo dual peer-review for publication in the *ASME Conference Proceedings* and the *ASME Journal of Solar Energy Engineering or the ASME Journal of Energy Resources.*

LIST OF TOPICAL AREAS

Abstracts are invited in any relevant policy & technology areas including the following:

Energy and Global Climate Change	Heat Pump Systems & Technologies
Emerging Energy Policy Issues	Combined Cooling, Heating and Power
International and National Energy Standards	Advances in Geothermal Technologies
Life-cycle Costing of Energy Systems	Thermodynamics for Energy Systems
Reducing the Eco-Footprint of Energy Systems	Fluid-thermal Sciences for Energy Systems
Alternatives to Carbon-Based Energy Technologies	Energy Systems Miniaturization
Sustainable Energy Figures of Merit	
	Climate Control
Performance Results of Renewable Energy Systems	Low Grade Thermal Energy Utilization
Energy Systems Technologies, Analysis and Design	Low/Zero Emission Power Plants
Alternatives to Transportation Fuels	Zero Energy Homes
Advances in Fuel Cells and Hydrogen Storage	
	Advances in Solar Hydrogen and Chemistry, & Bioconversion
Tidal and OTEC Technologies	Solar Thermal and Photovoltaic Power
Wind Energy System Technologies and Design	Concentrating Solar Components and Systems
Solar and Wind Resources Assessment	Advances in Solar Heating and Cooling Systems
Water Desalination Systems	Advances in Solar Energy Storage

ABSTRACTS

Authors should submit a 400-word text-only abstract to:

http://www.asmeconferences.org/ES2010/

ABSTRACTS DUE DATE: September 1st, 2009

For questions involving topics or submittal of abstracts, please contact:

Technical Program Chair: **Dr. Christian Sattler: christian.sattler@dlr.de**

General Program Chair: **Dr. Moncef Krarti: krarti@colorado.edu**

ASME SOLAR SPLASH 2010 :
International Intercollegiate Solar/Electric Boat Competition

Dear Former and Prospective Solar Splash Participants!

The **ASME Solar Splash**, the international intercollegiate solar/electric boat regatta, is planned for **JUNE 9-13, 2010** in Fayetteville, Arkansas – its 15th consecutive year!

The objective of the Solar Splash is to get student teams to construct a solar-powered boat within a school year at a reasonable cost, then compete against other college teams. The competition is designed to provide practical engineering experiences, encourage teamwork, and be fun --- without a major disruption to the students' academic schedule and at minimal cost. The Solar Splash helps students develop project and program management skills, and exposes them to a multitude of technical disciplines while teaching them the efficient use of energy and systems to create both a successful craft and a competitive team. This 'hands-on' project experience has made a significant contribution to many of the students' careers. More than two thousand students have participated in the previous 14 events, many for multiple years.

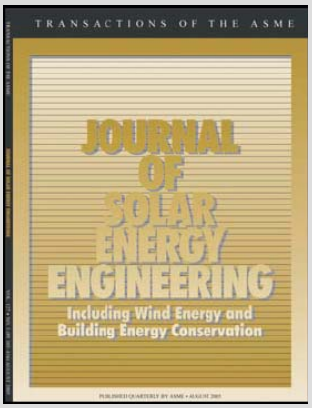
Many of the competing schools use their Senior Design course as the basis of their team, while other teams are 'non-credit' efforts. In order to help rookie teams get started, several of the veteran teams have volunteered to act as mentors for 'how, when and where' type issues. Also, all the Technical Reports, describing the boats and the power systems for last year's competitors, are available for this year's teams. Contact Splash Headquarters at the address below for details on the above topics.

If you are interested in learning more about the Year 2010 competition, please visit our web site www.solarsplash.com or contact the Solar Splash Headquarters office and you will receive a copy of the competition rules and our monthly newsletters. We hope you will be able to join us at Solar Splash 2010!

Solar Splash Headquarters
c/o Jeff Morehouse
Mechanical Engineering Dept; Univ. of South Carolina
Columbia, SC 29208

Phone: (803) 777-3017; -0106 (fax)
E-mail: *more@engr.sc.edu*

Opportunities for Publication



Journal of Solar Energy Engineering

Including Wind Energy and Energy Building Conservation
Prof. Aldo Steinfeld, **Editor**

The **ASME Journal of Solar Energy Engineering** is published quarterly and is available in print as well as electronic media on-line at **http://scitation.aip.org/ASMEJournals/Solar/**

The Editorial Board includes international experts who are responsible for topical areas including fundamentals and theory, heating and cooling, solar optics, solar collectors, solar thermal power, photovoltaics, wind energy, solar space applications, solar chemistry and bioconversion, conservation and solar buildings, energy storage, testing and measurement, emerging technology and energy policy.

The Journal welcomes papers that include original work of permanent interest in all areas of renewable energy and energy conservation as well as discussions of policy and regulatory issues that affect renewable energy technologies and their implementation.
Papers that do not include original work but nonetheless present quality analysis or incremental improvements to past work may be published as Technical Briefs. Review papers are accepted but should be discussed with the Editor prior to submittal.

Papers can be submitted online at:
http://journaltool.asme.org/Content/index.cfm
For indexing information:
http://journaltool.asme.org/Content/AbstractIndex15.cfm?notoolbar=1